

## Bridge Inspection Report

Bedford 151/151

Date of Inspection: 03/09/2016

Date Report Sent: 4/6/2016

☐ Picture taken during inspection

Owner: NHDOT

NH114

Over

BOWMAN BROOK

**Recommended Postings:**

Weight: No Posting Required

☒ Weight Sign OK

Width: Not Required

☒ Width Sign OK

Primary Height Sign Recommendation: None

Optional Centerline Height Sign Rec: None

Clearances: Over:  
(Feet) Under: 0.00  
Route:☒ Height Signs OK**Condition:** State Redlist

Deck: N N/A (NBI)

Superstructure: N N/A (NBI)

Substructure: N N/A (NBI)

Culvert: 3 Serious

**Structure Type and Materials:**

Number of Spans Main Unit: 1

Number of Approach Spans: 0

**Main Span Material and Design Type**

Steel Culvert

Sufficiency Rating: 54%

NBI Status: Not Applicable

Bridge Rail: N/A or Not Required

Rail Transition: N/A or Not Required

Bridge Approach Rail: Meets Standards

Approach Rail Ends: Meets Standards

NH Bridge Type: Metal Pipe

Deck Type: No Deck ( N/A - NBI)

Wearing Surface: No Deck ( N/A - NBI)

Membrane: No Deck ( N/A - NBI)

Deck Protection: No Deck ( N/A - NBI)

Pavement thickness: 3.0 in

Curb Reveal: Not Applicable

Plan Location: INSPECTION FOLDER

**Bridge Dimensions:**

Length Maximum Span: 10.0 ft

Left Curb/Sidewalk Width: 0.0 ft

Width Curb to Curb: 0.0 ft

Approach Roadway Width (W/ Shoulders): 45.3 ft

Total Bridge Length: 10.0 ft

Right Curb/Sidewalk Width: 0.0 ft

Total Bridge Width: 0.0 ft

Median: No median

Bridge Skew: 45.00 °

**Bridge Service:**

Type of Service on Bridge: Highway

Type of Service under: Waterway

Lanes on bridge: 2

Lanes Under: NA

AADT: 22000

Percent Trucks: 5 %

Year of AADT: 2014

Future AADT: 32560

Year of Future AADT: 2035

Year Built: 1964

Year Rebuilt: Not Rebuilt

Detour Length: 0.0 mi

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Federal or State Definition Bridge: NH Definition Bridge  
 Roadway Functional Class: Urban Principal Arterial  
 New Hampshire Highway System and Class: Primary-DOT Maintained  
 Eligibility for the National Register of Historic Places: Possibly eligible  
 Traffic Direction: Two-way traffic

**National Bridge Inventory (NBI) Appraisal Ratings:**

Deck Geometry: Not Applicable (NBI)  
 Underclearances: Not Applicable (NBI)  
 Approach Alignment: Equal Minimum Criteria  
 Structural Evaluation: Intolerable, Correctable  
 Channel/Channel Protection: Protection Undermined  
 Waterway Adequacy: Minimum Tolerable  
 Bridge Scour Critical Status: Stable, action needed  
 Riprap Condition: Fair Condition  
 Debris Present: Debris Present  
 STONE AND GRAVEL DEBRIS INSIDE BARREL.  
 Date of Underwater Inspection: Not Applicable

**AASHTO CoRe Element Condition State Data:**

| No. | Description                                       | Env.   | Material Notes and Condition Notes  |
|-----|---|--------|---|
| 240 | Culvert (includes Steel, Aluminum and Galvanized) | Severe | MP- 7.5' DIA. AT 45 DEGREE SKEW = 10' CLEAR SPAN. CORR. 6" X 2" X 1/8" THICK. 5'-6" OF EARTH COVER.<br><br>MP- INVERT REPAIRED WITH A CONCRETE SLURRY AND PEA STONE MIX COVERING INVERT. REPAIRS START APPROXIMATELY 10' IN FROM EAST END AND CONTINUE FOR 90' TO EXTEND UNDER TRAVELWAY. THIN AND SCATTERED HOLES ON RADIUS ABOVE REPAIRED INVERT. PAST REPAIRED INVERT; SCATTERED HOLES, EXPOSED FILL WITH SECTION LOSS UP TO 55% TO 65% IN 1.5' LENGTH ON RADIUS. INVERT- DEBRIS COVERED AND HOLED UP TO 40% +/- IN AREAS. SLIGHT SAG IN ROOFLINE AT SOUTH. DENTS IN ROOFLINE NEAR CENTERLINE. |
| 363 | Section Loss Condition Warning Flag               | Severe | RADIUS- 55% TO 65% SECTION LOSS IN 1.5 LENGTH NEAR SOUTHWEST END. 20% TO 30% SECTION LOSS IN 1' LENGTH 40' FROM SOUTHWEST END. INVERT HOLED WITH 40% SECTION LOSS IN AREAS. SECTION LOSS APPEARS NOT TO BE UNDER TRAVELWAY DUE TO SKEW.   |

| No. | Description                             | Env.   | Quantity | Units | State 1 | State 2 | State 3 | State 4 | State 5 |
|-----|---|--------|----------|-------|---------|---------|---------|---------|---------|
| 240 | Culvert (includes Steel, Aluminum and C | Severe | 225      | (LF)  | 0 %     | 0 %     | 0 %     | 100 %   |         |
| 363 | Section Loss Condition Warning Flag     | Severe | 1        | (EA)  | 0 %     | 0 %     | 100 %   | 0 %     |         |

**Bridge Notes:**

NEW BRIDGE TO INVENTORY. ADDED TO STATE RED LIST 4/27/2009. BANK EROSION AND PART OF INVERT UNDER TRAVELWAY ON EAST REPAIRED BY B.O.B.M. IN 2014.

11/13/15- LOCATIONS OF SECTION LOSS HAS INCREASED BUT SECTION LOSS PERCENTS HAVE NOT CHANGED SINCE 3/16/15 INSPECTION.

**Approach and Roadway Notes:** APPROACH ASPHALT- MEDIUM CRACK AT NORTH, LONGITUDINAL CRACK ALONG WHITE LINE WITH LIGHT SETTLEMENT ON EAST BREAKDOWN LANE; MOST CRACKS ARE SEALED. W- BEAM RAIL- MINOR DAMAGE.

**Bridge Inspection Report****Bedford 151/151****Inspection History:****Inspection Date:** 03/09/2016**Inspector:** NJL**Deck:** N N/A (NBI)**Notes:****Super:** N N/A (NBI)*NJL inspection comments-***Substr:** N N/A (NBI)

CULVERT: MP- INVERT REPAIRED WITH A CONCRETE SLURRY AND PEA STONE MIX COVERING INVERT. REPAIRS START APPROXIMATELY 10' IN FROM EAST END AND CONTINUE FOR 90' TO EXTEND UNDER TRAVELWAY. THIN AND SCATTERED HOLES ON RADIUS ABOVE REPAIRED INVERT. PAST REPAIRED INVERT; SCATTERED HOLES, EXPOSED FILL WITH SECTION LOSS UP TO 55% TO 65% IN 1.5' LENGTH ON RADIUS. INVERT- DEBRIS COVERED AND HOLED UP TO 40% +/- IN AREAS. SLIGHT SAG IN ROOFLINE AT SOUTH. DENTS IN ROOFLINE NEAR CENTERLINE.

**Culvert:** 3 Serious**Inspection Date:** 11/13/2015**Inspector:** KLM**Deck:** N N/A (NBI)**Notes:****Super:** N N/A (NBI)*KLM inspection comments-***Substr:** N N/A (NBI)

CULVERT: MP- INVERT REPAIRED WITH A CONCRETE SLURRY AND PEA STONE MIX COVERING INVERT. REPAIRS START APPROXIMATELY 10' IN FROM EAST END AND CONTINUE FOR 90' TO EXTEND UNDER TRAVELWAY. THIN AND SCATTERED HOLES ON RADIUS ABOVE REPAIRED INVERT. PAST REPAIRED INVERT; SCATTERED HOLES, EXPOSED FILL WITH SECTION LOSS UP TO 55% TO 65% IN 1.5' LENGTH ON RADIUS. INVERT- DEBRIS COVERED AND HOLED UP TO 40% +/- IN AREAS. SLIGHT SAG IN ROOFLINE AT SOUTH. DENTS IN ROOFLINE NEAR CENTERLINE.

**Culvert:** 3 Serious**PICTURES:** D175-

27. RADIUS HOLED AND FILL EXPOSED WITH 55% TO 65% SECTION LOSS IN 1.5' LENGTH ON SOUTHWEST END.

28. RADIUS HOLED AND FILL EXPOSED WITH 20% TO 30% SECTION LOSS 40' FROM SOUTHWEST END.

29. RADIUS HOLE AND FILL EXPOSED NEAR SOUTH MID SPAN.

30. RADIUS HOLED ABOVE REPAIRED AREA, NORTHEAST.

**Inspection Date:** 03/16/2015**Inspector:** KLM**Deck:** N N/A (NBI)**Notes:****Super:** N N/A (NBI)*KLM inspection comments-***Substr:** N N/A (NBI)

CULVERT: MP- INVERT PARTIALLY COVERED WITH GRAVEL STARTING AT WEST; AREAS VISIBLE ARE HOLED 65% AND RADIUS HOLED IN RANDOM LOCATIONS, APPEARS NOT TO BE UNDER TRAVELWAY DUE TO SKEW. INVERT REPAIRED WITH A CONCRETE SLURRY AND PEA STONE MIX COVERING INVERT AND HOLES IN RADIUS AT EAST. REPAIRS START APPROXIMATELY 10' IN FROM EAST END AND CONTINUE FOR 90' TO EXTEND UNDER TRAVELWAY. INVERT THINNED THROUGHOUT. SLIGHT SAG IN ROOFLINE AT SOUTH. DENTS IN ROOFLINE NEAR CENTERLINE.

**Culvert:** 3 Serious**Inspection Date:** 11/05/2014**Inspector:** NJL**Deck:** N N/A (NBI)**Notes:****Super:** N N/A (NBI)*NJL inspection comments-***Substr:** N N/A (NBI)

CULVERT: MP- INVERT PARTIALLY COVERED WITH GRAVEL STARTING AT WEST; AREAS VISIBLE ARE HOLED 65% AND RADIUS HOLED IN RANDOM LOCATIONS, APPEARS NOT TO BE UNDER TRAVELWAY DUE TO SKEW. INVERT REPAIRED WITH A CONCRETE SLURRY AND PEA STONE MIX COVERING INVERT AND HOLES IN RADIUS AT EAST. REPAIRS START APPROXIMATELY 10' IN FROM EAST END AND CONTINUE FOR 90' TO EXTEND UNDER TRAVELWAY. INVERT THINNED THROUGHOUT. SLIGHT SAG IN ROOFLINE AT SOUTH. DENTS IN ROOFLINE NEAR CENTERLINE.

**Culvert:** 3 Serious**PICTURES:** D153-

71. BANK EROSION REPAIRED AT EAST OUTLET.

72. RIP RAP PLACED AT EAST OUTLET AROUND MP.

73. VIEW OF REPAIRED INVERT AT EAST.

**Bridge Inspection Report****Bedford 151/151****Inspection History:****Inspection Date:** 03/17/2014**Inspector:** NJL**Deck:** N N/A (NBI)**Notes:****Super:** N N/A (NBI)*NJL inspection comments-***Substr:** N N/A (NBI)

CULVERT: MP- INVERT AT EAST (DOWNSTREAM) HOLED 2' WIDE X 10' LONG. HEAVY RUST, SCALE, AND HOLES ON SIDES OF BARREL. SLIGHT SAG IN ROOFLINE AT SOUTH. DENTS IN ROOFLINE NEAR CENTERLINE. VOIDS AT DOWNSTREAM OUTLET, 6" HIGH WITH 1' TO 2' OF PENETRATION. INVERT- SECTION OF INVERT MISSING 65' IN LENGTH FROM EAST END. SEVERAL FEET OF MISSING INVERT SECTIONS APPEAR TO BE UNDER THE TRAVELWAY. APPROX. 75' TO WEST END HAS 75% TO 85% SECTION LOSS. RADIUS- HOLED ON SOUTHEAST END 20' TO 25' IN LENGTH. THINNED THROUGHOUT. EROSION ON SLOPE AT DOWN STREAM SIDE.

**Culvert:** 2 Critical**PICTURE:** D134-

43. LIGHT SETTLEMENT IN BREAKDOWN LANE ON EAST OUTLET.

**Inspection Date:** 11/13/2013**Inspector:** NJL**Deck:** N N/A (NBI)**Notes:****Super:** N N/A (NBI)*NJL inspection comments-***Substr:** N N/A (NBI)

CULVERT: MP- INVERT AT EAST (DOWNSTREAM) HOLED 2' WIDE X 10' LONG. HEAVY RUST, SCALE, AND HOLES ON SIDES OF BARREL. SLIGHT SAG IN ROOFLINE AT SOUTH. DENTS IN ROOFLINE NEAR CENTERLINE. VOIDS AT DOWNSTREAM OUTLET, 6" HIGH WITH 1' TO 2' OF PENETRATION. INVERT- SECTION OF INVERT MISSING 65' IN LENGTH FROM EAST END. SEVERAL FEET OF MISSING INVERT SECTIONS APPEAR TO BE UNDER THE TRAVELWAY. APPROX. 75' TO WEST END HAS 75% TO 85% SECTION LOSS. RADIUS- HOLED ON SOUTHEAST END 20' TO 25' IN LENGTH. THINNED THROUGHOUT. EROSION ON SLOPE AT DOWN STREAM SIDE.

**Culvert:** 2 Critical**Inspection Date:** 04/30/2013**Inspector:** KLM**Deck:** N N/A (NBI)**Notes:****Super:** N N/A (NBI)*KLM inspection comments-***Substr:** N N/A (NBI)

CULVERT: MP- INVERT AT EAST (DOWNSTREAM) HOLED 2' WIDE X 10' LONG. HEAVY RUST, SCALE, AND HOLES ON SIDES OF BARREL. SLIGHT SAG IN ROOFLINE AT SOUTH. DENTS IN ROOFLINE NEAR CENTERLINE. VOIDS AT DOWNSTREAM OUTLET, 6" HIGH WITH 1' TO 2' OF PENETRATION. INVERT- SECTION OF INVERT MISSING 65' IN LENGTH FROM EAST END. SEVERAL FEET OF MISSING INVERT SECTIONS APPEARS TO BE UNDER THE TRAVELWAY. APPROX. 75' TO WEST END HAS 75% TO 85% SECTION LOSS. RADIUS- HOLED ON SOUTHEAST END 20' TO 25' IN LENGTH. THINNED THROUGH OUT. EROSION ON SLOPE AT DOWN STREAM SIDE.

**Culvert:** 2 Critical**PICTURES:** D113-

78. INVERT MISSING AND LIFTED IN A 6' AREA UNDER TRAVELWAY.

79. RADIUS HOLED ON SOUTHEAST.

**Inspection Date:** 03/14/2013**Inspector:** NJL**Deck:** N N/A (NBI)**Notes:****Super:** N N/A (NBI)*NJL inspection comments-***Substr:** N N/A (NBI)

CULVERT: MP- LARGE HOLE AT INVERT AND SIDE AT EAST. HOLED THROUGHOUT INVERT. MODERATE TO HEAVY RUST, SCALE, AND HOLES ON SIDES OF BARREL. EROSION ON SLOPE AT DOWN STREAM SIDE.

**Culvert:** 3 Serious**PICTURE:** D108-53. EROSION HOLE ON BACKSIDE OF GUARDRAIL ON NORTHEAST.**Inspection Date:** 11/15/2012**Inspector:** NJL**Deck:** N N/A (NBI)**Notes:****Super:** N N/A (NBI)*NJL inspection comments-***Substr:** N N/A (NBI)

CULVERT: MP- LARGE HOLE AT INVERT AND SIDE AT EAST. HOLED THROUGHOUT INVERT. MODERATE TO HEAVY RUST, SCALE, AND HOLES ON SIDES OF BARREL. EROSION ON SLOPE AT DOWN STREAM SIDE.

**Culvert:** 3 Serious

**Bridge Inspection Report****Bedford 151/151****Inspection History:**

|   |                       |                            |
|---|-----------------------|----------------------------|
| <b>Inspection Date:</b> 03/15/2012  | <b>Inspector:</b> MHC | <b>Deck:</b> N N/A (NBI)   |
| <b>Notes:</b>   |                       | <b>Super:</b> N N/A (NBI)  |
| MHC inspection comments-  |                       | <b>Substr:</b> N N/A (NBI) |
| CULVERT: MP- LARGE HOLE AT INVERT AND SIDE AT EAST. HOLED THROUGHOUT INVERT. MODERATE TO HEAVY RUST, SCALE, AND HOLES ON SIDES OF BARREL. EROSION ON SLOPE AT DOWN STREAM SIDE. |                       | <b>Culvert:</b> 3 Serious  |

**PICTURES:** D085

- 6. DENTS IN ROOFLINE.
- 7. LARGE HOLE AT INVERT.
- 8. LARGE HOLE AT NORTHEAST OUTLET.
- 9. LARGE HOLE AT INVERT AND SIDE AT EAST.

|  |                       |                            |
|--|-----------------------|----------------------------|
| <b>Inspection Date:</b> 11/21/2011   | <b>Inspector:</b> MHC | <b>Deck:</b> N N/A (NBI)   |
| <b>Notes:</b>  |                       | <b>Super:</b> N N/A (NBI)  |
| MHC inspection comments-   |                       | <b>Substr:</b> N N/A (NBI) |
| CULVERT: MP- HOLED THROUGHOUT INVERT. MODERATE TO HEAVY RUST, SCALE, AND HOLES ON SIDES OF BARREL. EROSION ON SLOPE AT DOWN STREAM SIDE. |                       | <b>Culvert:</b> 3 Serious  |

**PICTURES:** D079

- 7. RUST, SCALE, AND HOLES IN RADIUS.
- 8. LARGE HOLE AT DOWNSTREAM OUTLET.
- 9. LARGE HOLE IN INVERT DOWNSTREAM.
- 10. VOIDED AT OUTLET.
- 11. EROSION OVER PIPE DOWNSTREAM.

|   |                       |                            |
|---|-----------------------|----------------------------|
| <b>Inspection Date:</b> 03/03/2011  | <b>Inspector:</b> KLM | <b>Deck:</b> N N/A (NBI)   |
| <b>Notes:</b>   |                       | <b>Super:</b> N N/A (NBI)  |
| KLM inspection comments-  |                       | <b>Substr:</b> N N/A (NBI) |
| CULVERT: MP- HOLED THROUGHOUT INVERT. HEAVY CORROSION AND HOLES ON SIDES OF BARREL. EROSION ON SLOPE AT DOWN STREAM SIDE. |                       | <b>Culvert:</b> 3 Serious  |

|   |                       |                            |
|---|-----------------------|----------------------------|
| <b>Inspection Date:</b> 11/24/2010  | <b>Inspector:</b> NJL | <b>Deck:</b> N N/A (NBI)   |
| <b>Notes:</b>   |                       | <b>Super:</b> N N/A (NBI)  |
| NJL inspection comments-  |                       | <b>Substr:</b> N N/A (NBI) |
| CULVERT: MP- HOLED THROUGHOUT INVERT. HEAVY CORROSION AND HOLES ON SIDES OF BARREL. HOLED THROUGHOUT INVERT. TOP OF MP ON MIDSPAN HAS A 2' X 2' BULGE WITH NO PLATE GAP OR LEAKING. EROSION ON SLOPE AT DOWN STREAM SIDE. |                       | <b>Culvert:</b> 3 Serious  |

|   |                       |                            |
|---|-----------------------|----------------------------|
| <b>Inspection Date:</b> 03/10/2010  | <b>Inspector:</b> FNM | <b>Deck:</b> N N/A (NBI)   |
| <b>Notes:</b>   |                       | <b>Super:</b> N N/A (NBI)  |
| FNM- inspection comments-   |                       | <b>Substr:</b> N N/A (NBI) |
| CULVERT: MP- HOLED THROUGHOUT INVERT. HEAVY CORROSION AND HOLES ON SIDES OF BARREL. EROSION ON SLOPE AT DOWN STREAM SIDE. |                       | <b>Culvert:</b> 3 Serious  |

|   |                       |                            |
|---|-----------------------|----------------------------|
| <b>Inspection Date:</b> 11/10/2009  | <b>Inspector:</b> KLM | <b>Deck:</b> N N/A (NBI)   |
| <b>Notes:</b>   |                       | <b>Super:</b> N N/A (NBI)  |
| KLM- inspection comments-   |                       | <b>Substr:</b> N N/A (NBI) |
| CULVERT: MP- HOLED THOUGH OUT INVERT. HEAVY CORROSION AND HOLES ON SIDES OF BARREL. EROSION ON SLOPE AT DOWN STREAM SIDE. |                       | <b>Culvert:</b> 3 Serious  |

|   |                       |                            |
|---|-----------------------|----------------------------|
| <b>Inspection Date:</b> 04/27/2009  | <b>Inspector:</b> klm | <b>Deck:</b> N N/A (NBI)   |
| <b>Notes:</b>   |                       | <b>Super:</b> N N/A (NBI)  |
| KLM- inspection comments-   |                       | <b>Substr:</b> N N/A (NBI) |
| CULVERT: MP- EXTREME HOLES THOUGH OUT INVERT. HEAVY CORROSION AND HOLES ON SIDES OF BARREL. EROSION ON SLOPE AT DOWN STREAM SIDE. |                       | <b>Culvert:</b> 3 Serious  |

**PICTURES:** D032: 19 thru 25

## Bridge Inspection Report

Bedford 151/151

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